

Passive solar tracker for a solar concentrator

Abstract

The efficient operation of a solar concentrator requires the radiation collector to be pointed directly at the sun. The present invention represents one approach to a passive solar tracking system capable of focusing solar radiation onto a small target at all times of the year. The device consists of a two-axis gimbal system with its orientation controlled by interconnected ballasts filled with a volatile fluid. Accurate focusing is realized by ensuring that each significant mass element is balanced by another element of equal mass equidistant from and diametrically opposite to it through the point of intersection of the two gimbal axes for all possible orientations of the system.